



5-12-04

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PTO/SB/21 (05-03)

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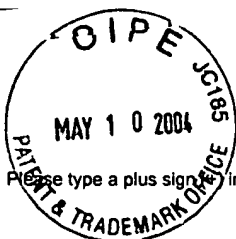
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)		Application Number	10/676,727
		Filing Date	September 30, 2003
		First Named Inventor	VERKMAN, ALAN
		Group Art Unit	1614
		Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	6	Attorney Docket Number	UCSF-291
ENCLOSURES (check all that apply)			
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement PTO-SB/08A <input type="checkbox"/> Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): 50 References Postcard	Remarks
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Signing Attorney/Agent (Reg. No.)	CAROL L. FRANCIS, 36,513 BOZICEVIC, FIELD & FRANCIS LLP		
Signature			
Date	May 10, 2004		

EXPRESS MAIL LABEL NO. EV 333997817 US

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S-12-04

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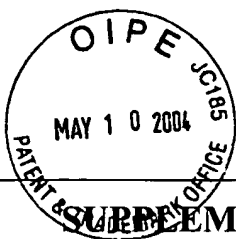
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)		Application Number	10/676,727
		Filing Date	September 30, 2003
		First Named Inventor	VERKMAN, ALAN
		Group Art Unit	1614
		Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	5	Attorney Docket Number	UCSF-291
ENCLOSURES (check all that apply)			
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Supplemental Information Disclosure Statement PTO-SB/08A <input type="checkbox"/> Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input checked="" type="checkbox"/> MEMORANDUM REGARDING COMPOUND COLLECTIONS (2 pgs.) <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): 1 Reference Postcard	Remarks
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Signing Attorney/Agent (Reg. No.)	CAROL L. FRANCIS, 36,513 BOZICEVIC, FIELD & FRANCIS LLP		
Signature			
Date	May 10, 2004		

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**SUPPLEMENTAL
INFORMATION
DISCLOSURE STATEMENT**

Address to:
Mail Stop ____
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket UCSF-291

First Named Inventor VERKMAN, ALAN

Application Number 10/676,727

Confirmation No. 2946

Filing Date September 30, 2003

Group Art Unit 1614

Examiner Name Unassigned

Title: "CYSTIC FIBROSIS TRANSMEMBRANE
CONDUCTANCE REGULATOR PROTEIN
INHIBITORS AND USES THEREOF"

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration. A Form PTO-SB/08A listing the references and copies of the cited references accompany this paper. Applicants would appreciate the Examiner's initialing and returning the form to indicate that the references have been reviewed and made of record.

This Information Disclosure Statement is not intended as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one of the above references constitutes prior art to the present application within the meaning of 35 U.S.C. §102.

As applicants have not yet received a first Action on the merits, no fee is believed to be required for filing this Disclosure Statement. If, however, the PTO finds that for some reason a fee is due, our Deposit Account No. 50-0815, Order No. UCSF-291 may be charged thereon.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date:

May 10, 2004

By:

Carol L. Francis
Carol L. Francis
Registration No. 36,513

BOZICEVIC, FIELD & FRANCIS LLP
200 Middlefield Road, Suite 200
Menlo Park, CA 94025
Telephone: (650) 327-3400
Facsimile: (650) 327-3231
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**EXPRESS MAIL LABEL NO. EV 333997817 US**

MEMORANDUM REGARDING COMPOUND COLLECTIONS Address to: Mail Stop ____ Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	10/676,727
	Attorney Docket No.	UCSF-291
	Confirmation Number	2946
	Filing Date	September 30, 2003
	First Named Inventor	Alan Verkman
	Examiner	Unassigned
	Group Art	1614
	Title:	"Cystic Fibrosis Transmembrane Conductance Regulator Protein Inhibitors and Uses Thereof"

Sir:

Applicants hereby request that the following be considered and made of record in the above-referenced application.

Identification of some of the compounds having the desired characteristics was accomplished by initialing screening a diverse collection of approximately 50,000 drug-like compounds purchased without obligation of confidentiality from ChemBridge (San Diego, CA) or ChemDiv (San Diego, CA), which compounds were provided in stock solutions of 10 mM DMSO. The compounds identified from this initial screen were:

- (1) 3-[(3-trifluoromethyl)phenyl]-5-[(4-carboxyphenyl)methylene]-2-thioxo-4-thiazolidinone (CFTRinh-172)
- (2) 3-[(3-trifluoromethyl)phenyl]-5-[(4-nitrophenyl)methylene]-2-thioxo-4-thiazolidinone(CFTRinh-020);
- (3) 3-[(3-trifluoromethyl)phenyl]-5-[(4-oxycarboxyphenyl)methylene]-2-thioxo-4-thiazolidinone (CFTRinh-029);
- (4) 3-[(3-trifluoromethyl)phenyl]-5-[(3,4-dihydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone (CFTRinh-185),
- (5) 3-[(3-trifluoromethyl)phenyl]-5-[(3,5-dibromo-4-hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone (CFTRinh-214)
- (6) 3-[(3-trifluoromethyl)phenyl]-5-[(3-bromo-4-hydroxy-5-nitrophenyl)methylene]-2-thioxo-4-thiazolidinone (CFTRinh-236).

A table of exemplary results is attached.



Express Mail No. EV 333997817 US

INFORMATION DISCLOSURE STATEMENT Address to: Mail Stop Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Attorney Docket	UCSF-291
	First Named Inventor	VERKMAN, ALAN
	Application Number	10/676,727
	Confirmation No.	2946
	Filing Date	September 30, 2003
	Group Art Unit	1614
	Examiner Name	Not Yet Assigned
	Title:	"CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR PROTEIN INHIBITORS AND USES THEREOF"

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration. A Form PTO-SB/08A listing the references and copies of the cited references accompany this paper. Applicants would appreciate the Examiner's initialing and returning the form to indicate that the references have been reviewed and made of record.

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As applicants have not yet received a first Action on the merits, no fee is believed to be required for filing this Disclosure Statement. If, however, the PTO finds that for some reason a fee is due, our Deposit Account No. 50-0815, Order No. UCSF-291 may be charged thereon.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date:

May 10, 2004

By:

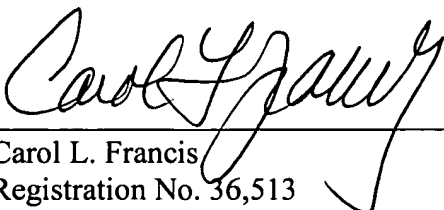
Carol L. Francis
Carol L. Francis
Registration No. 36,513

BOZICEVIC, FIELD & FRANCIS LLP
200 Middlefield Road, Suite 200
Menlo Park, CA 94025
Telephone: (650) 327-3400
Facsimile: (650) 327-3231

To the best of applicant's knowledge, the activity of any of these compounds with respect to cystic fibrosis transmembrane conductance regulator (CFTR) protein was not known prior to the applicant's invention.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date: May 10, 2004

By: 
Carol L. Francis
Registration No. 36,513

BOZICEVIC, FIELD & FRANCIS LLP
200 Middlefield Road, Suite 200
Menlo Park, CA 94025
Telephone: (650) 327-3400
Facsimile: (650) 327-3231
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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known			
		Application Number	10/676,727		
		Filing Date	September 30, 2003		
		First Named Inventor	VERKMAN, ALAN		
		Group Art Unit	1614		
Examiner Name	Unassigned				
Sheet	1	of	1	Attorney Docket Number	UCSF-291

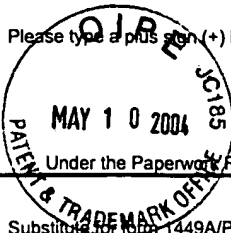
OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Memorandum Regarding Compound Collections, Dated May 15, 2003	

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				<i>Complete if Known</i>		
				Application Number	10/676,727	
Sheet		1	of	4	Attorney Docket Number	UCSF-291
Substitute Form 1449A/PTO		Filing Date		September 30, 2003		
		Confirmation Number		2946		
		First Named Inventor		VERKMAN, ALAN		
		Group Art Unit		1614		
		Examiner Name		Unassigned		

U.S. PATENT DOCUMENTS						
Examiner Initials ¹	Cite No. ¹	U.S. Patent Documents		Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, columns, lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
		4,965,155	B1	Nishiquchi et al.	10/23/1990	
		2002/0049211	A1	Sobolov-Jaynes et al.	04/25/2002	
		2002/0049214	A1	Gibbs et al.	04/25/2002	
		6,380,186	B1	Howard	04/30/2002	
		6,403,592	B1	Howard	06/11/2002	
		2002/0072519	A1	Howard	06/13/2002	
		2002/0091117	A1	Howard	07/11/2002	
		2002/0091118	A1	Howard	07/11/2002	
		2002/0091119	A1	Howard	07/11/2002	
		6,423,708	B1	Gibbs et al.	07/23/2002	

FOREIGN PATENT DOCUMENTS								
Examiner Initials ¹	Cite No. ¹	Foreign Patent Documents			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
✓		JP	1-156752	A	SEE APPENDIX C (BX)	06/20/1989		
		JP	1-173065	A	SEE APPENDIX C (BX)	07/07/1989		
		JP	1-172836	A	SEE APPENDIX C (BX)	07/07/1989		

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²	
		Abdel-Rahman et al., "Heterodiene Synthesis I Reaction of 5-Arylidenerhodanine Derivatives with 1-Morpholinocyclohexene Enamine", <i>Synthetic Communications</i> 19(3&4) pgs 345-354 (1989).		
		Abdel-Rahman et al., "A Chemical Evidence Supporting the Formation of Dihydropyran Aducts from the Reaction of 5-Arylidenerhodanines with 1-Morpholinocyclohexene through zwitterionic Intermediate ", <i>Afinidad L. 50(445)</i> , pgs. 155-159 (1993).		
		Abdel-Rahman, "Dihydropyrans form the Heterodienic Reaction of 5-Arylidenerhodanine Derivatives with Isoprene", <i>Chem Papers</i> 47(6) 385-387 (1993).		
		Cabantchik et al., "Chemical Probes for Anion Transporters of Mammalian Cell Membranes", <i>Invited Review The American Physiological Society</i> pgs. C803-C827 (1992).		

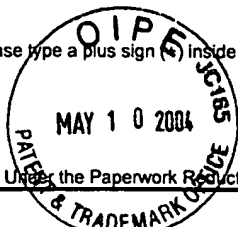
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¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard St.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form T449B/PTO		Complete if Known			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/262,573		
		Filing Date	September 30, 2002		
		First Named Inventor	VERKMAN, ALAN		
		Group Art Unit	1614		
		Examiner Name	Unassigned		
Sheet	2	of	4	Attorney Docket Number	UCSF-291

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		Edwards et al., "Induction of a Glibenclamide-sensitive K-current by Modification of a Delayed Rectifier Channel in Rat Portal Vein and Insulinoma Cells" Br. J. Pharmacol. 110, 1280-1281 (1993).	
		El-Shafei et al., "Applications of Phase-Transfer Catalysis In Reactions with Rhodanine Derivatives", Gazzetta Chimica Italiana, 120, pgs. 197-201 (1990).	
		Gabriel et al., "Cystic Fibrosis Heterozygote Resistance to Cholera Toxin in the Cystic Fibrosis Mouse Model", Science Volume 266, pgs 107-109 (1994).	
		Gabriel et al., "A Novel Plant-Derived Inhibitor of cAMP-Mediated Fluid and Chloride Secretion" The American Physiological Society pgs G58-G63 (1999).	
		Galletta et al., "Novel CFTR Chloride Channel Activators Identified by Screening of Combinatorial Libraries Based on Flavone and Benzoquinolinizinium Lead Compounds", J. Biological Chemistry Vol 276, No. 23 pp. 19723-19728 (June, 2001)	
		Gorbach et al., "Acute Undifferentiated Human Dxiarrhea in the Tropics", The journal of Clinical Investigations" Volume 50, pp. 881-889 (1971).	
		Grubb et al., "Pathophysiology of Gene-Targeted Mouse Models for Cystic Fibrosis" The American Physiology Society, Physiology Reviews Vol. 79 Suppl. S193-S214 (1999).	
		Gupta et al., "Synthesis and Fungitoxicity of Some 5-Substituted-3-Polynitrophenyl Rhodanines", J. Indian Chem Soc. Vol LV, pp. 483-485. (1978).	
		Hongre et al., "Effects of Sulphonyllureas on camp-Stimulated Cl- Transport Via the Cytic Fibrosis Gene Product in Human Epithelial Cells", Pflugers Arch 426: 284-287 (1994).	
		Jayaraman et al., "Submucosal Gland Secretions in Airways From Cystic Fibrosis Patients Have Normal [Na+] and ph But Elevated Viscosity", PNAS VO> 98 No.14 8119-8123 (July 2001).	
		Khalil et al., "The Action of Arlamines on 3-Aryl-5-Arylmethylenrhodanines", Revue Roumaine de Chimie 23, 6, pp. 935-941 (1978).	
		Khan et al., "Synthesis and Insecticidal Activity if 5-amino-7-aryl-6-cyano-3-substitute-thiazolo[4,5-b]-2,3,4,7.....", Indian Journal of Chemistry Vol. 37B pp. 1069-1074 (1998).	
		Ladnaya et al., "Synthesis and Properties of Thiazolidons-4 Obtained From Phenamine II. Thiasolidindions-2,4", Luov Medical Institute pp. 37-41	

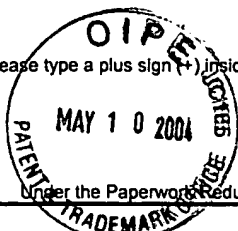
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Sheet 3 of 4	Attorney Docket Number	UCSF-291	

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		Lohi et al., "Upregulation of CFTR Expression but not SLC26A3 and SLC9A3 in Ulcerative Colitis", <i>American Journal Physio Gastrointest Liver Physiology</i> 283 G567-G575 (2002).	
		Makhlouf et al., "New Antomicrobial Rhodanines" <i>Pharmazie</i> . 51, 430-431 (1996).	
		McDonough et al., "Novel Pore-Lining Residues in CFTR That Govern Permeation and Open-Channel Block", <i>Neuron</i> Volume 13, pgs 623-634 (September, 1994).	
		Noone et al., "CFTR-Opathies: Disease Phenotypes Associated with Cystic Fibrosis Transmembrane Regulator Gene Mutations" <i>Respir Res</i> . 2:328-332 (2001).	
		Oi et al., "Identification in Traditional herbal Medications and Confirmation by Synthesis of Factors that Inhibit Cholera Toxin-Induced Fluid Accumulation", <i>PNAS</i> Vol. 99 No. 5 3042-3046 (March, 2002).	
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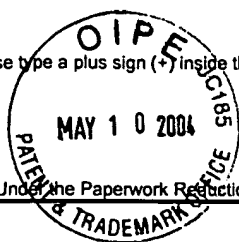
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Filing Date	September 30, 2002
		First Named Inventor	VERKMAN, ALAN
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		Tejchman et al., "Introduction of Selenium to Heterocyclic Compounds. Part VI. Synthesis of 3-Aryl-5-benzylidene- and", Polish J. Chem., 70, 1124-1134 (1996).	
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		Appendix C – Thiazolidinone Chemical Structure Search (Identified References) Pages 1-70 (2002).	

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